

***** STN Columbus *****

FILE 'HOME' ENTERED AT 14:55:02 ON 08 DEC 2008

=> fil .bec

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	1.26	1.26

FILES 'MEDLINE, SCISEARCH, LIFESCI, BIOTECHDS, BIOSIS, EMBASE, HCAPLUS, NTIS, ESBIOBASE, BIOTECHNO, WPIDS' ENTERED AT 14:58:45 ON 08 DEC 2008
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11 FILES IN THE FILE LIST

=> s (myoinositol or myo(2a)inositol)(2a)phosphate(2a)(synthase# or synthetase#)
FILE 'MEDLINE'

829 MYOINOSITOL
5658 MYO
30830 INOSITOL
165242 PHOSPHATE
111718 SYNTHASE#
36131 SYNTHETASE#

L1 198 (MYOINOSITOL OR MYO(2A)INOSITOL)(2A)PHOSPHATE(2A)(SYNTHASE# OR SYNTHETASE#)

FILE 'SCISEARCH'

3013 MYOINOSITOL
5319 MYO
31299 INOSITOL
186096 PHOSPHATE
135855 SYNTHASE#
36900 SYNTHETASE#

L2 189 (MYOINOSITOL OR MYO(2A)INOSITOL)(2A)PHOSPHATE(2A)(SYNTHASE# OR SYNTHETASE#)

FILE 'LIFESCI'

169 MYOINOSITOL
1629 MYO
10963 INOSITOL
49874 PHOSPHATE
31796 SYNTHASE#
11623 SYNTHETASE#

L3 59 (MYOINOSITOL OR MYO(2A)INOSITOL)(2A)PHOSPHATE(2A)(SYNTHASE# OR SYNTHETASE#)

FILE 'BIOTECHDS'

199 MYOINOSITOL
635 MYO
1689 INOSITOL
23111 PHOSPHATE
7499 SYNTHASE#
3314 SYNTHETASE#

L4 27 (MYOINOSITOL OR MYO(2A)INOSITOL)(2A)PHOSPHATE(2A)(SYNTHASE# OR SYNTHETASE#)

FILE 'BIOSIS'

1217 MYOINOSITOL
64640 MYO
39917 INOSITOL
258996 PHOSPHATE
123638 SYNTHASE#

47423 SYNTHETASE#
 L5 215 (MYOINOSITOL OR MYO (2A) INOSITOL) (2A)PHOSPHATE (2A) (SYNTHASE# OR SYNTHETASE#)

FILE 'EMBASE'
 1033 MYOINOSITOL
 4987 MYO
 28392 INOSITOL
 204894 PHOSPHATE
 112540 SYNTHASE#
 29029 SYNTHETASE#

L6 131 (MYOINOSITOL OR MYO (2A) INOSITOL) (2A)PHOSPHATE (2A) (SYNTHASE# OR SYNTHETASE#)

FILE 'HCAPLUS'
 2599 MYOINOSITOL
 10330 MYO
 43172 INOSITOL
 612489 PHOSPHATE
 120355 SYNTHASE#
 54587 SYNTHETASE#

L7 239 (MYOINOSITOL OR MYO (2A) INOSITOL) (2A)PHOSPHATE (2A) (SYNTHASE# OR SYNTHETASE#)

FILE 'NTIS'
 8 MYOINOSITOL
 28 MYO
 173 INOSITOL
 6623 PHOSPHATE
 304 SYNTHASE#
 206 SYNTHETASE#

L8 0 (MYOINOSITOL OR MYO (2A) INOSITOL) (2A)PHOSPHATE (2A) (SYNTHASE# OR SYNTHETASE#)

FILE 'ESBIOBASE'
 314 MYOINOSITOL
 2327 MYO
 13816 INOSITOL
 59817 PHOSPHATE
 56362 SYNTHASE#
 12828 SYNTHETASE#

L9 85 (MYOINOSITOL OR MYO (2A) INOSITOL) (2A)PHOSPHATE (2A) (SYNTHASE# OR SYNTHETASE#)

FILE 'BIOTECHNO'
 228 MYOINOSITOL
 1333 MYO
 9535 INOSITOL
 51707 PHOSPHATE
 29457 SYNTHASE#
 11179 SYNTHETASE#

L10 67 (MYOINOSITOL OR MYO (2A) INOSITOL) (2A)PHOSPHATE (2A) (SYNTHASE# OR SYNTHETASE#)

FILE 'WPIDS'
 271 MYOINOSITOL
 734 MYO
 3950 INOSITOL
 140210 PHOSPHATE
 7386 SYNTHASE#
 4082 SYNTHETASE#

L11 19 (MYOINOSITOL OR MYO (2A) INOSITOL) (2A)PHOSPHATE (2A) (SYNTHASE# OR SYNTHETASE#)

SYNTHETASE#)

TOTAL FOR ALL FILES

L12 1229 (MYOINOSITOL OR MYO(2A) INOSITOL) (2A) PHOSPHATE(2A) (SYNTHASE#
OR SYNTHETASE#)

=> s l12 and (porteresia or coarctata or wild rice)

FILE 'MEDLINE'

13 PORTERESIA
20 COARCTATA
180419 WILD
16445 RICE
186 WILD RICE

(WILD(W)RICE)

L13 4 L1 AND (PORTERESIA OR COARCTATA OR WILD RICE)

FILE 'SCISEARCH'

43 PORTERESIA
121 COARCTATA
196521 WILD
56307 RICE
709 WILD RICE

(WILD(W)RICE)

L14 7 L2 AND (PORTERESIA OR COARCTATA OR WILD RICE)

FILE 'LIFESCI'

19 PORTERESIA
77 COARCTATA
116642 "WILD"
15971 "RICE"
318 WILD RICE

("WILD"(W)"RICE")

L15 1 L3 AND (PORTERESIA OR COARCTATA OR WILD RICE)

FILE 'BIOTECHDS'

9 PORTERESIA
11 COARCTATA
18674 WILD
6783 RICE
34 WILD RICE

(WILD(W)RICE)

L16 1 L4 AND (PORTERESIA OR COARCTATA OR WILD RICE)

FILE 'BIOSIS'

67 PORTERESIA
489 COARCTATA
246651 WILD
83210 RICE
910 WILD RICE

(WILD(W)RICE)

L17 5 L5 AND (PORTERESIA OR COARCTATA OR WILD RICE)

FILE 'EMBASE'

8 PORTERESIA
16 COARCTATA
150838 "WILD"
10849 "RICE"
84 WILD RICE

("WILD"(W)"RICE")

L18 2 L6 AND (PORTERESIA OR COARCTATA OR WILD RICE)

FILE 'HCAPLUS'

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        41 PORTERESIA
        153 COARCTATA
208082 WILD
111404 RICE
        561 WILD RICE
            (WILD(W)RICE)
L19          6 L7 AND (PORTERESIA OR COARCTATA OR WILD RICE)

FILE 'NTIS'
        1 PORTERESIA
        0 COARCTATA
        3928 WILD
        2833 RICE
        41 WILD RICE
            (WILD(W)RICE)
L20          0 L8 AND (PORTERESIA OR COARCTATA OR WILD RICE)

FILE 'ESBIOBASE'
        28 PORTERESIA
        49 COARCTATA
        131031 WILD
        20680 RICE
        290 WILD RICE
            (WILD(W)RICE)
L21          4 L9 AND (PORTERESIA OR COARCTATA OR WILD RICE)

FILE 'BIOTECHNO'
        10 PORTERESIA
        16 COARCTATA
        73649 WILD
        6637 RICE
        89 WILD RICE
            (WILD(W)RICE)
L22          0 L10 AND (PORTERESIA OR COARCTATA OR WILD RICE)

FILE 'WPIDS'
        4 PORTERESIA
        10 COARCTATA
        20563 WILD
        67977 RICE
        98 WILD RICE
            (WILD(W)RICE)
L23          1 L11 AND (PORTERESIA OR COARCTATA OR WILD RICE)

TOTAL FOR ALL FILES
L24          31 L12 AND (PORTERESIA OR COARCTATA OR WILD RICE)

=> s l24 not 2004-2008/py
FILE 'MEDLINE'
        3254962 2004-2008/PY
            (20040000-20089999/PY)
L25          0 L13 NOT 2004-2008/PY

FILE 'SCISEARCH'
        6074569 2004-2008/PY
            (20040000-20089999/PY)
L26          1 L14 NOT 2004-2008/PY

FILE 'LIFESCI'
        776856 2004-2008/PY
L27          0 L15 NOT 2004-2008/PY

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FILE 'BIOTECHDS'
    119822 2004-2008/PY
L28      0 L16 NOT 2004-2008/PY

FILE 'BIOSIS'
    2845241 2004-2008/PY
L29      1 L17 NOT 2004-2008/PY

FILE 'EMBASE'
    2810797 2004-2008/PY
L30      0 L18 NOT 2004-2008/PY

FILE 'HCAPLUS'
    6590417 2004-2008/PY
L31      1 L19 NOT 2004-2008/PY

FILE 'NTIS'
    81185 2004-2008/PY
L32      0 L20 NOT 2004-2008/PY

FILE 'ESBIOBASE'
    1603403 2004-2008/PY
L33      1 L21 NOT 2004-2008/PY

FILE 'BIOTECHNO'
    586 2004-2008/PY
L34      0 L22 NOT 2004-2008/PY

FILE 'WPIDS'
    5682064 2004-2008/PY
L35      0 L23 NOT 2004-2008/PY

TOTAL FOR ALL FILES
L36      4 L24 NOT 2004-2008/PY

=> dup rem l36
PROCESSING COMPLETED FOR L36
L37      1 DUP REM L36 (3 DUPLICATES REMOVED)

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=> d

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L37 ANSWER 1 OF 1 SCISEARCH COPYRIGHT (c) 2008 The Thomson Corporation on
    STN DUPLICATE 1
TI Salinity-induced enhancement of L-myo-inositol 1-
    phosphate synthase in rice (Oryza sativa L)
SO PLANT CELL AND ENVIRONMENT, (DEC 1996) Vol. 19, No. 12, pp. 1437-1442.
    ISSN: 0140-7791.
AU Raychaudhuri A (Reprint); Majumder A L
AN 1997:16977 SCISEARCH

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=> d ab

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L37 ANSWER 1 OF 1 SCISEARCH COPYRIGHT (c) 2008 The Thomson Corporation on
    STN DUPLICATE 1
AB The salt-tolerant varieties of rice (Oryza sativa L.) exhibit enhanced
    activity of the chloroplast form of L-myo-inositol 1-
    phosphate synthase (EC 5.5.4.1) under NaCl treatment
    either during the seedling stage or in fully grown plants during field
    growth. The salt-induced enhancement was noticeable only in chloroplasts
    from light-grown plants. The effects of these treatments on the cytosolic
    inositol synthase activity were less pronounced. While the effect of salt

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on the activity of the two forms was marginal in the salt-sensitive varieties during seedling growth, salinity affected the chloroplast inositol synthase activity adversely in these varieties during growth of the plants under field conditions, The salt-enhanced activities of inositol synthase(s) in the highly salt-tolerant varieties studied were found to be comparable to that observed in *Porteresia coarctata*, a halophytic wild rice species, The implications of these findings, which suggest a role of the inositol pathway in osmoregulation, are discussed.

```
=> s l12 and (salt(5a)(toleran? or resistan?))
FILE 'MEDLINE'
    73157 SALT
    166259 TOLERAN?
    530444 RESISTAN?
    3147 SALT(5A)(TOLERAN? OR RESISTAN?)
L38      6 L1 AND (SALT(5A)(TOLERAN? OR RESISTAN?))

FILE 'SCISEARCH'
    150211 SALT
    180548 TOLERAN?
    661756 RESISTAN?
    7835 SALT(5A)(TOLERAN? OR RESISTAN?)
L39      12 L2 AND (SALT(5A)(TOLERAN? OR RESISTAN?))

FILE 'LIFESCI'
    24369 SALT
    46687 TOLERAN?
    175663 RESISTAN?
    2080 SALT(5A)(TOLERAN? OR RESISTAN?)
L40      2 L3 AND (SALT(5A)(TOLERAN? OR RESISTAN?))

FILE 'BIOTECHDS'
    12471 SALT
    8941 TOLERAN?
    39230 RESISTAN?
    1411 SALT(5A)(TOLERAN? OR RESISTAN?)
L41      2 L4 AND (SALT(5A)(TOLERAN? OR RESISTAN?))

FILE 'BIOSIS'
    138754 SALT
    182261 TOLERAN?
    637231 RESISTAN?
    9454 SALT(5A)(TOLERAN? OR RESISTAN?)
L42      8 L5 AND (SALT(5A)(TOLERAN? OR RESISTAN?))

FILE 'EMBASE'
    76065 SALT
    143152 TOLERAN?
    487661 RESISTAN?
    2718 SALT(5A)(TOLERAN? OR RESISTAN?)
L43      2 L6 AND (SALT(5A)(TOLERAN? OR RESISTAN?))

FILE 'HCAPLUS'
    867947 SALT
    152945 TOLERAN?
    1614294 RESISTAN?
    17381 SALT(5A)(TOLERAN? OR RESISTAN?)
L44      10 L7 AND (SALT(5A)(TOLERAN? OR RESISTAN?))

FILE 'NTIS'
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18511 SALT
19657 TOLERAN?
61160 RESISTAN?
332 SALT(5A)(TOLERAN? OR RESISTAN?)
L45 0 L8 AND (SALT(5A)(TOLERAN? OR RESISTAN?))

FILE 'ESBIOBASE'
34438 SALT
85080 TOLERAN?
194377 RESISTAN?
3674 SALT(5A)(TOLERAN? OR RESISTAN?)
L46 7 L9 AND (SALT(5A)(TOLERAN? OR RESISTAN?))

FILE 'BIOTECHNO'
15513 SALT
20204 TOLERAN?
102127 RESISTAN?
1379 SALT(5A)(TOLERAN? OR RESISTAN?)
L47 4 L10 AND (SALT(5A)(TOLERAN? OR RESISTAN?))

FILE 'WPIDS'
407770 SALT
58578 TOLERAN?
1029419 RESISTAN?
4387 SALT(5A)(TOLERAN? OR RESISTAN?)
L48 1 L11 AND (SALT(5A)(TOLERAN? OR RESISTAN?))

TOTAL FOR ALL FILES
L49 54 L12 AND (SALT(5A)(TOLERAN? OR RESISTAN?))

=> s l49 not 2004-2008/py
FILE 'MEDLINE'
3254962 2004-2008/PY
(20040000-20089999/PY)
L50 2 L38 NOT 2004-2008/PY

FILE 'SCISEARCH'
6074569 2004-2008/PY
(20040000-20089999/PY)
L51 4 L39 NOT 2004-2008/PY

FILE 'LIFESCI'
776856 2004-2008/PY
L52 1 L40 NOT 2004-2008/PY

FILE 'BIOTECHDS'
119822 2004-2008/PY
L53 1 L41 NOT 2004-2008/PY

FILE 'BIOSIS'
2845241 2004-2008/PY
L54 4 L42 NOT 2004-2008/PY

FILE 'EMBASE'
2810797 2004-2008/PY
L55 0 L43 NOT 2004-2008/PY

FILE 'HCAPLUS'
6590417 2004-2008/PY
L56 4 L44 NOT 2004-2008/PY

FILE 'NTIS'

```

81185 2004-2008/PY
L57 0 L45 NOT 2004-2008/PY

FILE 'ESBIOBASE'
1603403 2004-2008/PY
L58 4 L46 NOT 2004-2008/PY

FILE 'BIOTECHNO'
586 2004-2008/PY
L59 4 L47 NOT 2004-2008/PY

FILE 'WPIDS'
5682064 2004-2008/PY
L60 0 L48 NOT 2004-2008/PY

TOTAL FOR ALL FILES
L61 24 L49 NOT 2004-2008/PY

=> dup rem l61
PROCESSING COMPLETED FOR L61
L62 6 DUP REM L61 (18 DUPLICATES REMOVED)

=> d tot

L62 ANSWER 1 OF 6 BIOTECHNO COPYRIGHT 2008 Elsevier Science B.V. on STN
TI Discrimination of genes expressed in response to the ionic or osmotic
effect of salt stress in soybean with cDNA-AFLP
SO Plant, Cell and Environment, (01 DEC 2002), 25/12 (1617-1625), 45
reference(s)
CODEN: PLCEDV ISSN: 0140-7791
AU Umezawa T.; Mizuno K.; Fujimura T.
AN 2002:35456646 BIOTECHNO

L62 ANSWER 2 OF 6 SCISEARCH COPYRIGHT (c) 2008 The Thomson Corporation on
STN DUPLICATE 1
TI Processing and activation of chloroplast L-myo-inositol
1-phosphate synthase from Oryza sativa requires
signals from both light and salt
SO PLANT SCIENCE, (APR 2002) Vol. 162, No. 4, pp. 559-568.
ISSN: 0168-9452.
AU Hait N C; Raychaudhury A; Das A; Bhattacharyya S; Majumder A L (Reprint)
AN 2002:483962 SCISEARCH

L62 ANSWER 3 OF 6 SCISEARCH COPYRIGHT (c) 2008 The Thomson Corporation on
STN DUPLICATE 2
TI Myo-inositol-dependent sodium uptake in ice plant
SO PLANT PHYSIOLOGY, (JAN 1999) Vol. 119, No. 1, pp. 165-172.
ISSN: 0032-0889.
AU Nelson D E; Koukoumanos M; Bohnert H J (Reprint)
AN 1999:67009 SCISEARCH

L62 ANSWER 4 OF 6 MEDLINE on STN
TI Pleiotropic effects of the opil regulatory mutation of yeast: its effects
on growth and on phospholipid and inositol metabolism.
SO Microbiology (Reading, England), (1998 Oct) Vol. 144 (Pt 10), pp.
2739-48.
Journal code: 9430468. ISSN: 1350-0872.
AU Jiraneck V; Graves J A; Henry S A
AN 1999018823 MEDLINE

L62 ANSWER 5 OF 6 MEDLINE on STN DUPLICATE 3
TI Overexpression of D-myo-inositol-3-phosphate

synthase leads to elevated levels of inositol in Arabidopsis.
SO Plant molecular biology, (1997 Mar) Vol. 33, No. 5, pp. 811-20.
Journal code: 9106343. ISSN: 0167-4412.
AU Smart C C; Flores S
AN 1997260385 MEDLINE

L62 ANSWER 6 OF 6 SCISEARCH COPYRIGHT (c) 2008 The Thomson Corporation on
STN DUPLICATE 4
TI Salinity-induced enhancement of L-myo-inositol 1-
phosphate synthase in rice (Oryza sativa L)
SO PLANT CELL AND ENVIRONMENT, (DEC 1996) Vol. 19, No. 12, pp. 1437-1442.
ISSN: 0140-7791.
AU Raychaudhuri A (Reprint); Majumder A L
AN 1997:16977 SCISEARCH

=> d ab tot

L62 ANSWER 1 OF 6 BIOTECHNO COPYRIGHT 2008 Elsevier Science B.V. on STN
AB 'Ionic effects' and 'osmotic effects' are major components of salt stress
in plants. In this study these two parameters were clearly discriminated
in soybean (Glycine max (L.) Merr.) using a modified cDNA-amplified
fragment length polymorphism (AFLP) technique. Soybean (cv. Lee)
seedlings were exposed to iso-osmotic treatment consisting of 100 mM NaCl
and 12% (w/v) polyethylene glycol 6000 for 24 h. The NaCl treatment fully
activated salt tolerance as confirmed by the
expression of the inositol-1-phosphate synthase gene. Then, gene
expression in each sample was examined by cDNA-AFLP, and 140
differentially expressed cDNA fragments were obtained out of 13 000
amplicons. The percentage of transcripts dependent on ionic
(NaCl-specific) and osmotic effects (common with NaCl and polyethylene
glycol) could be evaluated for 44 and 40% of them, respectively.
cDNA-AFLP also revealed the distribution of transcripts in shoots and
roots. The ionic effect-dependent gene expression was more abundant in
roots indicating that they showed a greater response to ionic stress than
shoots. Several ion transporters, transcription factors and redox enzymes
that were specific to the ionic effect may play important roles in the
salt tolerance of soybean. The technical advantages of
this modified cDNA-AFLP method are also discussed.

L62 ANSWER 2 OF 6 SCISEARCH COPYRIGHT (c) 2008 The Thomson Corporation on
STN DUPLICATE 1
AB Two forms of enzymatically active L-myo-inositol 1-
phosphate synthase(s) have been detected in the
chloroplasts of Oryza sativa L. The two forms have been identified as
comprising of similar to 80 and similar to 60 kDa subunits. The similar
to 80 kDa subunit is the predominant species in the dark grown etioplasts
while the light/dark grown chloroplasts accumulate the similar to 60 kDa
subunit. The larger subunit is mostly membrane bound and the smaller one
accumulates in the stromal fraction. Purified similar to 80 kDa subunit
is proteolytically cleaved to the similar to 60 kDa subunit by
chloroplastic supernatant immunodepleted of the synthase protein. Further,
in seedlings of salt tolerant varieties of Oryza grown
under light/dark environment in presence of 100 mM NaCl, the similar to 80
kDa subunit is phosphorylated in a Ca²⁺ dependent manner, commensurate
with increased enzymatic activity. It appears that a light and salt
mediated interplay of protease(s) and kinase(s) system regulates the
processing and activation of the chloroplast inositol synthase(s) in
higher plants. (C) 2002 Elsevier Science Ireland Ltd. All rights
reserved.

L62 ANSWER 3 OF 6 SCISEARCH COPYRIGHT (c) 2008 The Thomson Corporation on

STN

DUPLICATE 2

AB In salt-stressed ice plants (*Mesembryanthemum crystallinum*), sodium accumulates to high concentrations in vacuoles, and polyols (myo-inositol, D-ononitol, and D-pinitol) accumulate in the cytosol. Polyol synthesis is regulated by NaCl and involves induction and repression of gene expression (D.B. Nelson, B. Shen, and H.J. Bohnert [1998] *Plant Cell* 10: 753-764). In the study reported here we found increased phloem transport of myo-inositol and reciprocal increased transport of sodium and inositol to leaves under stress. To determine the relationship between increased translocation and sodium uptake, we analyzed the effects of exogenous application of myo-inositol: The NaCl-inducible ice plant myo-inositol 1-phosphate synthase is repressed in roots, and sodium uptake from root to shoot increases without stimulating growth. Sodium uptake and transport through the xylem was coupled to a 10-fold increase of myo-inositol and ononitol in the xylem. Seedlings of the ice plant are not salt-tolerant, and yet the addition of exogenous myo-inositol conferred upon them patterns of gene expression and polyol accumulation observed in mature, salt-tolerant plants. Sodium uptake and transport through the xylem was enhanced in the presence of myo-inositol. The results indicate an interdependence of sodium uptake and alterations in the distribution of myo-inositol. We hypothesize that myo-inositol could serve not only as a substrate for the production of compatible solutes but also as a leaf-to-root signal that promotes sodium uptake.

L62 ANSWER 4 OF 6 MEDLINE on STN

AB Key factors which impact on the biosynthesis and subsequent fate of the phospholipid precursor inositol were studied as a function of growth phase in the yeast *Saccharomyces cerevisiae*. Both wild-type and strains disrupted for the *OPI1* gene, the principal negative regulator of the phospholipid biosynthetic genes, were examined. Overexpression of the *INO1* gene and overproduction of both inositol and the major inositol-containing phospholipid, phosphatidylinositol, varied as a function of growth phase. In *opil* cells, *INO1* expression was constitutive at a high level throughout growth, although the level of transcript was reduced at stationary phase when the cells were grown in defined medium. In the wild-type strain, *INO1* expression was limited to a peak in the exponential phase of growth in cells grown in the absence of inositol. Interestingly, the pattern of *OPI1* expression in the wild-type strain resembled that of its putative target, *INO1*. Intracellular inositol contents of the *opil* strain were higher than those of the wild-type strain, with peak levels occurring in the stationary phase. Membrane phosphatidylinositol content paralleled intracellular inositol content, with *opil* strains having a higher phosphatidylinositol content in stationary phase. The proportion of the predominant phospholipid, phosphatidylcholine, exhibited a profile that was the inverse of the phosphatidylinositol content: phosphatidylcholine content was lowest in *opil* cells in stationary phase. The *opil* mutation was also found to have effects beyond phospholipid biosynthesis. *opil* cells were smaller, and *opil* cultures achieved a cell density twice as high as comparable wild-type cultures. *opil* cells were also more salt tolerant than wild-type cells: they were partly resistant to shrinking, more rapidly resumed growth, and attained a higher culture density after upshift to medium supplemented with 8% NaCl.

L62 ANSWER 5 OF 6 MEDLINE on STN DUPLICATE 3

AB In this paper, we report on the generation of transgenic *Arabidopsis* plants containing elevated levels of the gene product encoding the enzyme catalysing the first committed step in inositol biosynthesis, D-myo-inositol-3-phosphate (Ins3P) synthase. These plants exhibit both an increase in Ins3P synthase activity and an increase in the level of free inositol of over four-fold

compared to wild-type plants. Despite these changes, we could detect no significant difference in phenotype in the transgenic plants for a number of characteristics linked with putative functions of inositol and inositol-derived metabolites. Our results indicate that the proposed engineering of inositol metabolism to generate specific plant phenotypes (e.g. salt tolerance) may require the manipulation of several genes, and that Ins3F synthase activity can be manipulated to increase the pool size of free inositol.

L62 ANSWER 6 OF 6 SCISEARCH COPYRIGHT (c) 2008 The Thomson Corporation on
STN DUPLICATE 4

AB The salt-tolerant varieties of rice (*Oryza sativa* L.) exhibit enhanced activity of the chloroplast form of L-myo-inositol 1-phosphate synthase (EC 5.5.4.1) under NaCl treatment either during the seedling stage or in fully grown plants during field growth. The salt-induced enhancement was noticeable only in chloroplasts from light-grown plants. The effects of these treatments on the cytosolic inositol synthase activity were less pronounced. While the effect of salt on the activity of the two forms was marginal in the salt-sensitive varieties during seedling growth, salinity affected the chloroplast inositol synthase activity adversely in these varieties during growth of the plants under field conditions. The salt-enhanced activities of inositol synthase(s) in the highly salt-tolerant varieties studied were found to be comparable to that observed in *Porteresia coarctata*, a halophytic wild rice species. The implications of these findings, which suggest a role of the inositol pathway in osmoregulation, are discussed.

=> log y

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

112.96

114.22

STN INTERNATIONAL LOGOFF AT 15:21:23 ON 08 DEC 2008